A-49

Form 3160-3
(August 1999)

New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM-13280

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <35358>
Marshall 10 Federal Com., #1

2. Name of Operator
Samson Resources <20165>

9. API Well No.
30-025-37627

3a. Address
Samson Plaza--Two W. 2nd St. Tulsa, OK 74103

3b. Phone No. *(include area code)*
(918) 591-1822

10. Field and Pool, or Exploratory
Teas Morrow West

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface 1980' FSL & 1980' FWL Unit K
At proposed prod. zone same
R-111-P-POTASH

11. Sec., T., R., M., or Blk. and Survey or Area
Sec. 10-T20S-R33E

14. Distance in miles and direction from nearest town or post office*
37 miles northeast of Carlsbad, NM

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
660'	960	320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
N/A	14,000'	NM-2037
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3565' GL	December 5, 2005	5 weeks

24. Attachments

Capitan Controlled Water Basin

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
George R. Smith	George R. Smith	10/28/05

Title
Agent for Samson Resources

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Linda S. C. Rundell	/s/ Linda S. C. Rundell	JAN 04 2006

Title	Office
STATE DIRECTOR	NM STATE OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

Lease Responsibility Statement: Samson Resources Co. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof.

George R. Smith, agent

WITNESS: 16", 11 3/4" and 8 5/8" CEMENT JOBS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

State of New Mexico
Energy, Minerals and Natural Resources Department

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised JUNE 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-37627	86050	Teas Morrow West

Property Code	Property Name	Well Number
35358	MARSHALL 10 FEDERAL COM	1

OGRID No.	Operator Name	Elevation
20165	SAMSON RESOURCES	3565'

Surface Location

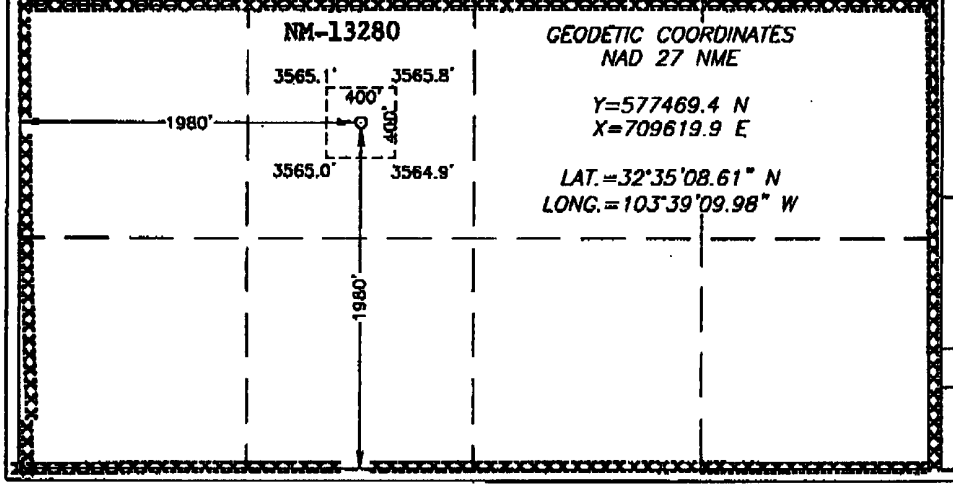
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	10	20-S	33-E		1980	SOUTH	1980	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320		Comm.	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



GEODETIC COORDINATES
NAD 27 NME

Y=577469.4 N
X=709619.9 E

LAT.=32°35'08.61" N
LONG.=103°39'09.98" W

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

George R. Smith
Signature

George R. Smith
Printed Name

Agent
Title

October 28, 2005
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

OCTOBER 13, 2005
Date Surveyed LA

Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
3239
10/24/05
05.11.1611
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. RONALD J. EIDSON 3239

APPLICATION FOR DRILLING

SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
1980' FSL & 1980' FWL, Sec. 10-T20S-R33E
Lea County, New Mexico
Lease No.: NM-13280
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Samson Resources submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.

2. The estimated tops of geologic markers are as follows:

Rustler	1,325'	Wolfcamp Mkr	11,250'
Yates	3,200'	Strawn	12,270'
Capitan	3,470'	Atoka	12,540'
Delaware	5,200'	Morrow	12,800'
Bone Spring	8,250'	Morrow Clastics	13,075'
Wolfcamp	11,020'	T.D.	14,000'

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:
   Water: Surface water between 100' - 300'.
   Oil: Possible in the Delaware below 5200'.
   Gas: Possible in Atoka below 12,540' and the Morrow below 12,800'.

4. **Proposed Casing Program:**

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
18 1/2"	16"	75.0#	K-55	BT&C	0' - 1,380'	Circ 950 sx Prem Plus + 350 sx Prem Plus tail
14 3/4"	11 3/4"	54.5#	K-55	LT&C	0' - 3,500'	Circ. 1330 sx. HLC Prem Plus
10 5/8"	8 5/8"	32.0#	HC-K-55	LT&C	0' - 4,700'	Circ. 900 sx. Interfill C & Prem
7 7/8"	5 1/2"	20.0#	P110	LT&C	0' - 14,000'	1200-1800 sx Premium Cmt. TOC 4,500'

5. **Minimum Specifications for Pressure Control Equipment:**
NU 21 ¾" 2M WP Hydril & test to 800 psi before drilling 14 ¾" hole.
NU 13 5/8" 10M WP Shaffer, double over single w/ 13 5/8" 5M Hydril annular preventer before drilling the 10 5/8" & 7 7/8" holes. Perform 3M test before drilling 10 5/8" hole & 5M test before drilling 7 7/8" hole. See Exhibit "E".

6. MUD PROGRAM:		MUD WEIGHT	VIS.	W/L CONTROL
0' - 1,380':	Fresh water mud:	8.4 - 9.2 ppg	28 - 29	No W/L control
1,380' - 3,500':	Brine	10.0 - 10.4 ppg	26 - 29	No W/L control
3,500' - 4,700':	Fresh water + addit.	8.8 - 9.6 ppg	26 - 29	No W/L control
4,700' - 12,400':	Fresh water/Cut brine	8.4 - 9.4 ppg	26 - 29	No W/L control
12,400' - 14,000':	Cut Brine/xcd Polymer	10.0 - 11.5 ppg	29 - 42	W/L control: <10cc

7. **Auxiliary Equipment**: Blowout Preventer, flow sensors and stabbing valve.

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.
Logging: 5,215' to T.D: CNL-DNL w/GR-Cal.
5,215' to Surface: CNL-GR
Coring: Rotary sidewall if dictated by logs.

9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 6160 psi and surface pressure of 3080 psi with a temperature of 200°.

10. H_2S: None expected. The Mud Log Unit will be cautioned to use a gas trap to detect H_2S and if any is detected the mud weight will be increased along with H_2S inhibitors sufficient to control the gas.

11. Anticipated starting date: December 5, 2005.
Anticipated completion of drilling operations: Approximately 6 weeks.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
1980' FSL & 1980' FWL, Sec. 10-T20S-R33E
Lea County, New Mexico
Lease No.: NM-13280
(Development Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, to be followed in rehabilitating the surface environmental effects associated with the operations.

1. EXISTING ROADS:

A. Exhibit "A" is a portion of a USGS/BLM Topo map showing the location of the proposed well as staked. The well site location is approximately 37 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 37.0 miles of paved highway and .4 mile of gravel oilfield road.

B. Directions: Travel east from Carlsbad, NM on U.S. Highway 62/180 for approximately 32 miles to NM Highway #176. Continue east on #62/180 for 4.8 miles, .6 mile east of MM #72. The start of the proposed access road is flagged on the fence, north of the highway. The proposed access road is an abandoned oilfield road that has caliche and will be rebuilt. A metal culvert and a gate/cattleguard will be installed. The road will access the southeast corner of the proposed well site.

2. PLANNED ACCESS ROAD:

A. Length and Width: The proposed and existing, 2,200 foot long, road will access the drilling pad on the southeast corner. The existing access roads are color coded on Exhibit "A".

B. Construction: The existing access road will be rebuilt by grading and topping with compacted caliche and will be properly drained.

C. Turnouts: At least one turnout will be required increasing the road width to twenty (20) feet for passing.

D. Culverts: One 24" X 80' culvert will be required at the turnoff from Highway 62/180.

E. Cuts and Fills: None required.

F. Gates, Cattle guards: One gate and cattleguard will be required in the highway ROW fence.

G. Off Lease R/W: None required.

3. LOCATION OF EXISTING WELLS:

A. Existing wells within a two-mile radius are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;

A. Samson Resources has no production facilities on the lease at this time.

B. If the well proves to be commercial, the necessary production facilities, gas production-process equipment and tank battery, if required, will be installed on the drilling pad.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for the access road and well site pad will be obtained on location, if available, or from an approved Federal pit located in the SENW of Sec. 14-T20S-R33E. No surface materials will be disturbed except those necessary for actual grading and construction of the drill site and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. Drill cuttings will be disposed of in the reserve pits.

B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.

C. All pits will be fenced with normal fencing materials to prevent livestock and wildlife from entering the area.

D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.

E. Oil produced during operations will be stored in tanks until sold.

F. Current laws and regulations pertaining to the disposal of human waste will be complied with.

G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

A. None required.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 500' X 500'.

B. Mat Size: 400' X 250', plus 140' X 170' reserve mud pits. The pits will be on the north.

C. Cut & Fill: None required.

D. The surface will be topped with compacted caliche and the mud pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

A. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible

B. Any unguarded pits containing fluids will be fenced until they are filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled as soon as they are dry enough to work after completion or abandonment.

11. OTHER INFORMATION:

A. Topography: The proposed well site and access road is located in the Querecho Plains. The location has an overall northwesterly slope of .6% from an elevation of 3565 feet.

B. Soil: The topsoil on the well site and access road is reddish brown colored fine sand. The soil is of the Pyote loamy fine sands soils series.

C. Flora and Fauna: The vegetation at the well site is a good grass cover of three-awn, sand dropseed, grama, bush muhly, blue stem and other miscellaneous native grasses along with plants of mesquite, yucca, sage, broomweed, buckwheat, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.

D. Ponds and Streams: None.

E. Residences and Other Structures: None, but existing oil field facilities.

F. Land Use: Cattle grazing.

G. Surface Ownership: The proposed well site and access road are on Federal surface.

H. There is no evidence of archaeological, historical or cultural sites in the area. Archaeological Survey Consultants, P.O. Box 2285, Roswell, NM 88202 are conducting an archaeological survey and their report will be submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:

A. The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

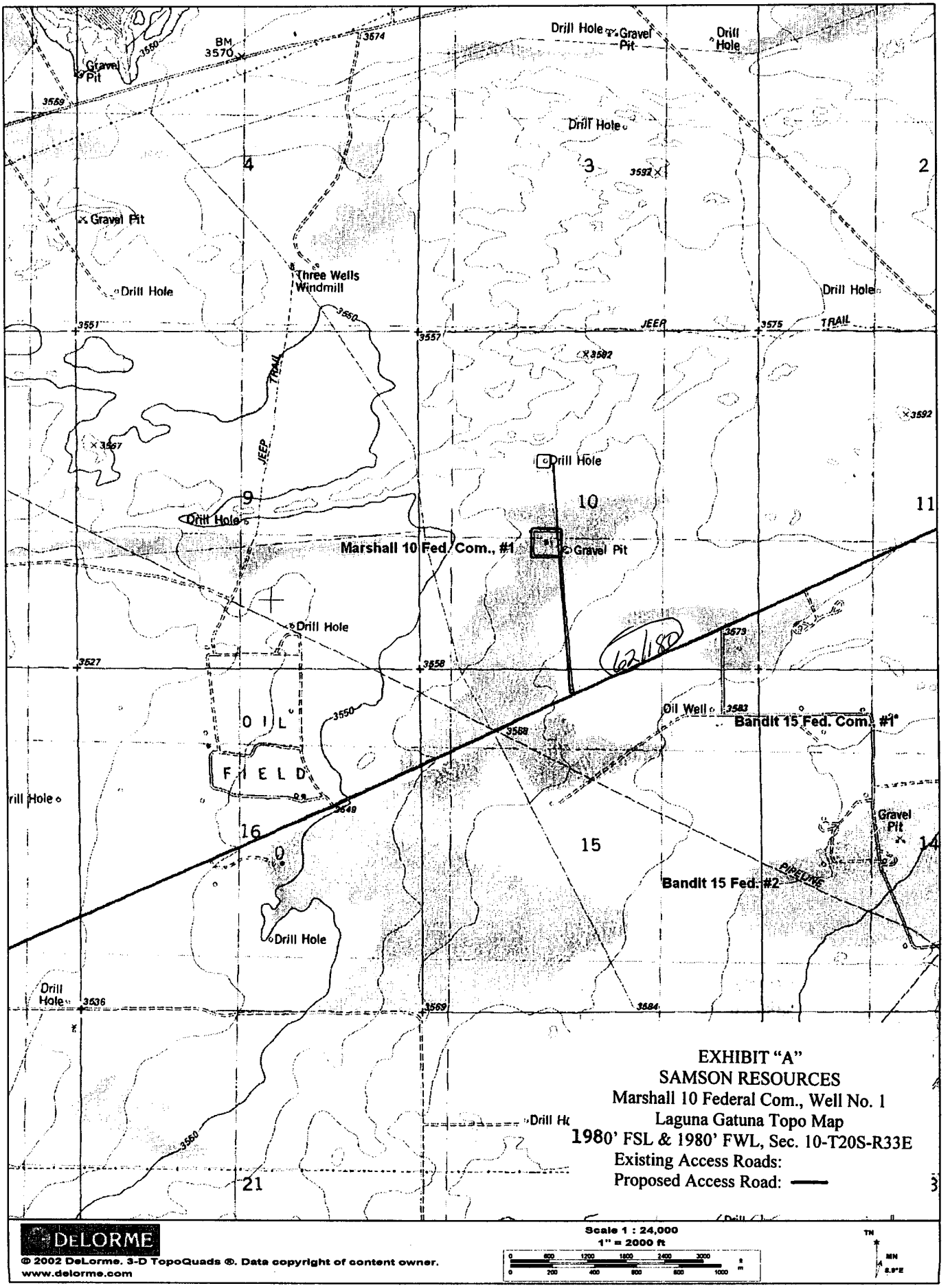
Don Eubank
Samson Resources
Samson Plaza-Two West Second St.
Tulsa, OK 74103-3103
Office Phone: (918) 591-1522

13. CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Samson Resources and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

October 28, 2005

George R. Smith
Agent for: Samson Resources


Drill Hole
Gravel Pit
BM 3570
3574
3559
Drill Hole
Gravel Pit
Drill Hole
4
3
3592
2
Gravel Pit
Three Wells Windmill
Drill Hole
Drill Hole
3551
3550
JEEP TRAIL
3557
3575
TRAIL
3592
3592
3567
JEEP
Drill Hole
9
10
11
Drill Hole
Marshall 10 Fed. Com., #1
Gravel Pit
Drill Hole
3527
3558
3579
62/180
Oil Well
3583
Bandit 15 Fed. Com. #1
3550
3568
O I L
F I E L D
3549
16
15
Gravel Pit
14
Bandit 15 Fed. #2
PIPELINE
Drill Hole
Drill Hole
3536
3569
3584
Drill Hole
3550
21
3
EXHIBIT "A"
SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
Laguna Gatuna Topo Map
1980' FSL & 1980' FWL, Sec. 10-T20S-R33E
Existing Access Roads:
Proposed Access Road:
DELORME
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com
Scale 1 : 24,000
1" = 2000 ft
TN
MN
8.9°E

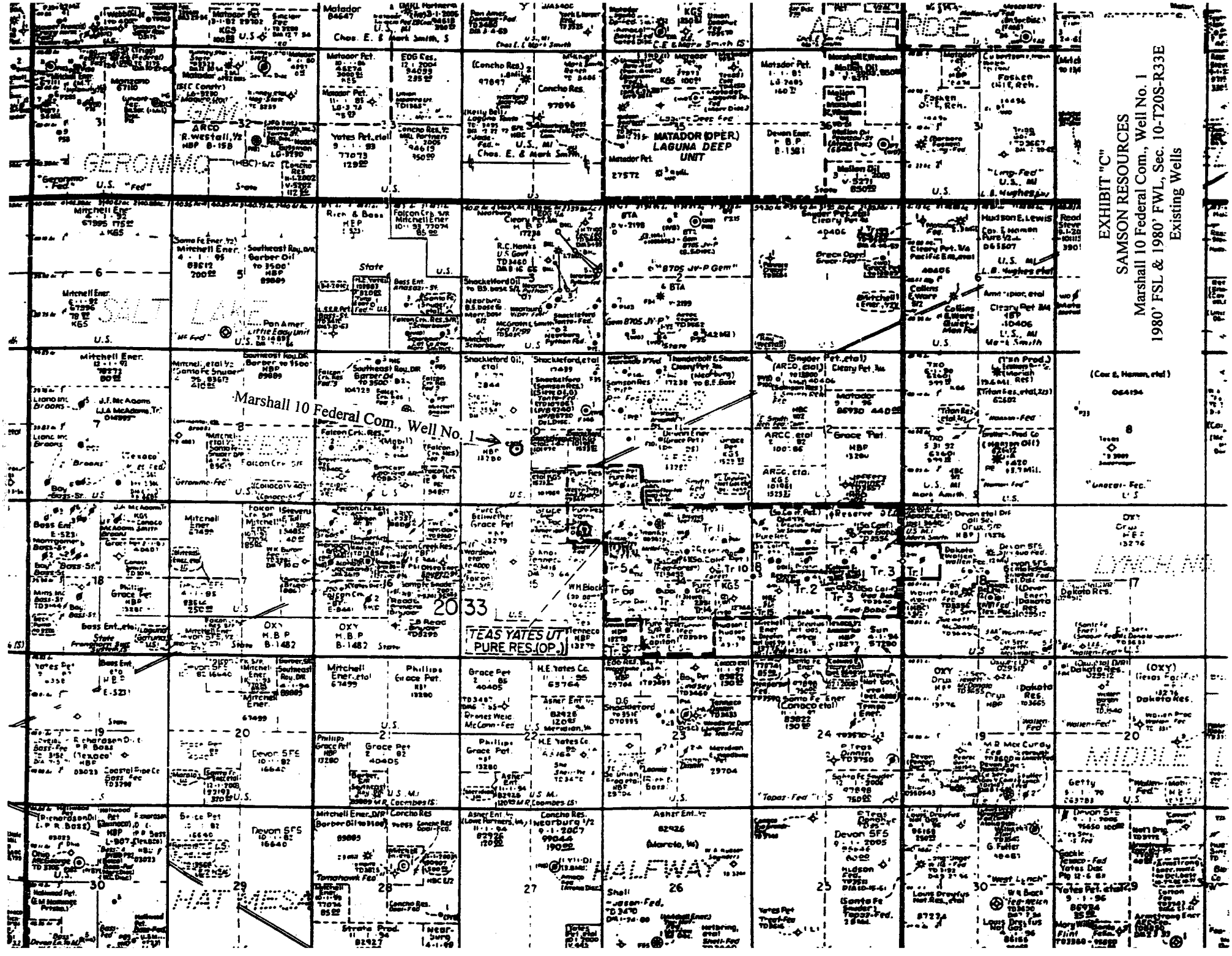


EXHIBIT "C"
SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
1980' FSL & 1980' FWL, Sec. 10-T20S-R33E
Existing Wells
Marshall 10 Federal Com., Well No. 1
2033
TEAS YATES UT
PURE RES.(OP.)
MATADOR (OPER)
LAGUNA DEEP
UNIT
APACHE RIDGE
GERONIMO
SALT LAKE
MIDDLE MESA
MIDWAY

Patterson-UTI Drilling Company

Rig # 480

20,000'

DRAWWORKS
Gardner& Denver 1100 E (1500HP) 1 3/8" drill line (2) GE 752 elec. motors

ENGINES
3 – Caterpillars3508, 900HP w/720KW generators

DERRICK
Ideal 143', 1,000,000# hook load w/12 lines

SUBSTRUCTURE
24' height 21' vertical clear height under rotary beams

MUD PUMPS
(2) – Gardner-Denver PZ-10, 1350HP powered by (2) GE 752, 1000HP D.C. Motor

DRILL STRING
5900' 1950 E 5"
3400' 1950 5" X95
1550' 2560 5" X95
1900' 1950 S 5"

BLOWOUT PREVENTERS
(1) Shaffer 13 5/8" 10,000 psi SL double ram w/H2S trim w/ (4) 4" outlets; (1) Shaffer 13 5/8" 10,000 psi single ram w/H2S trim w/(2) 4" outlets (1) 13 5/8" 5000 psi Shaffer annular

MUD SYSTEM
3 pits, 1600 bbl capacity w/high and low pressure mixing capability, Harrisburg 10 cone desilter, Harrisburg 2 cone desander, 2 FSI linear motion shale shakers.

COMMUNICATIONS
24 hour direct cellular telephone

OTHER EQUIPMENT
Blocks. Gardner-Denver 550 ton 6 sheaves 1 3/8" line
Hook. Joy 500 ton hook
Swivel. Garner-Denver SW400, 400 tons
Rotary Table. Gardner-Denver 27 ½", 250 tons @ 100 rpm 500 tons static
Electrical Power.
Fresh Water Storage. Housing. (2) 500 bbl

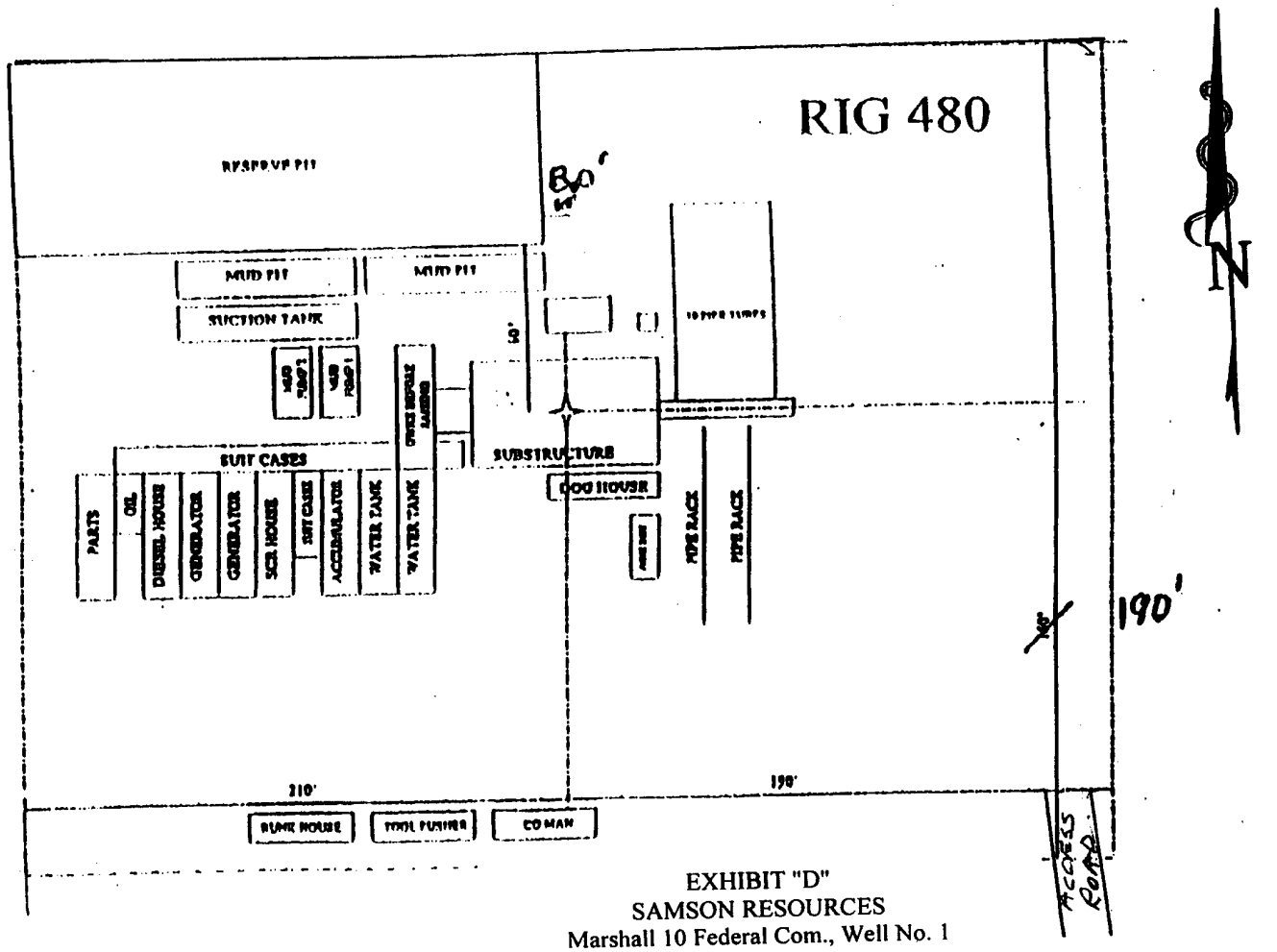
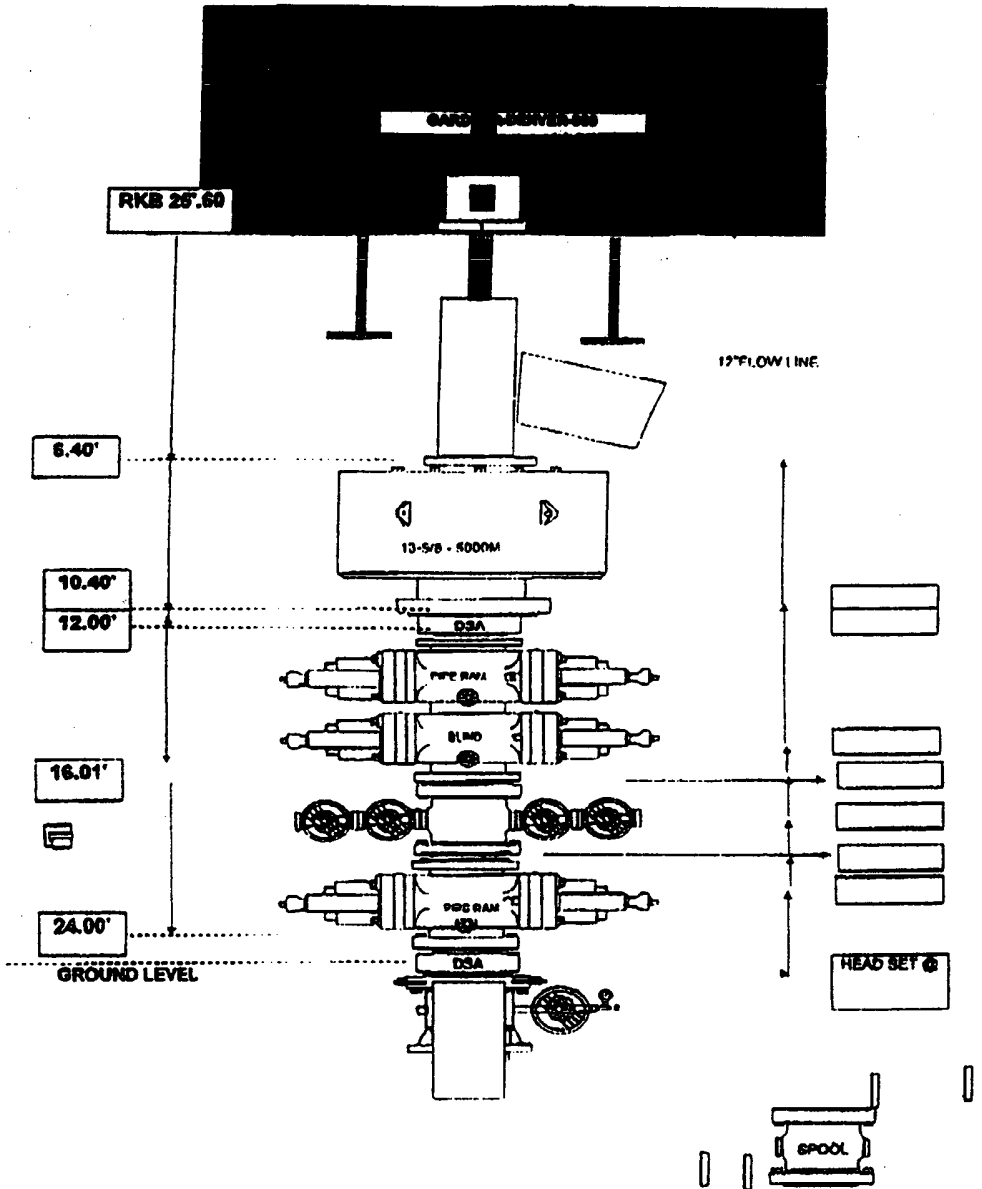


EXHIBIT "D"
SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
Pad & Pit Layout

14326648628



ANNULAR = 13 5/8 - 5M HYDRIL GK ANN
DOUBLE = 13 5/8 - 10M SHAFFER SL (DBL) BOP
SINGLE = 13 5/8 - 10M SHAFFER SL POSLOK BOP
WELL HEAD = 11" 5M
KILL LINE VALVES = 2.1/16 10M
CHOKE LINE VALVE = 4.1/16 10M

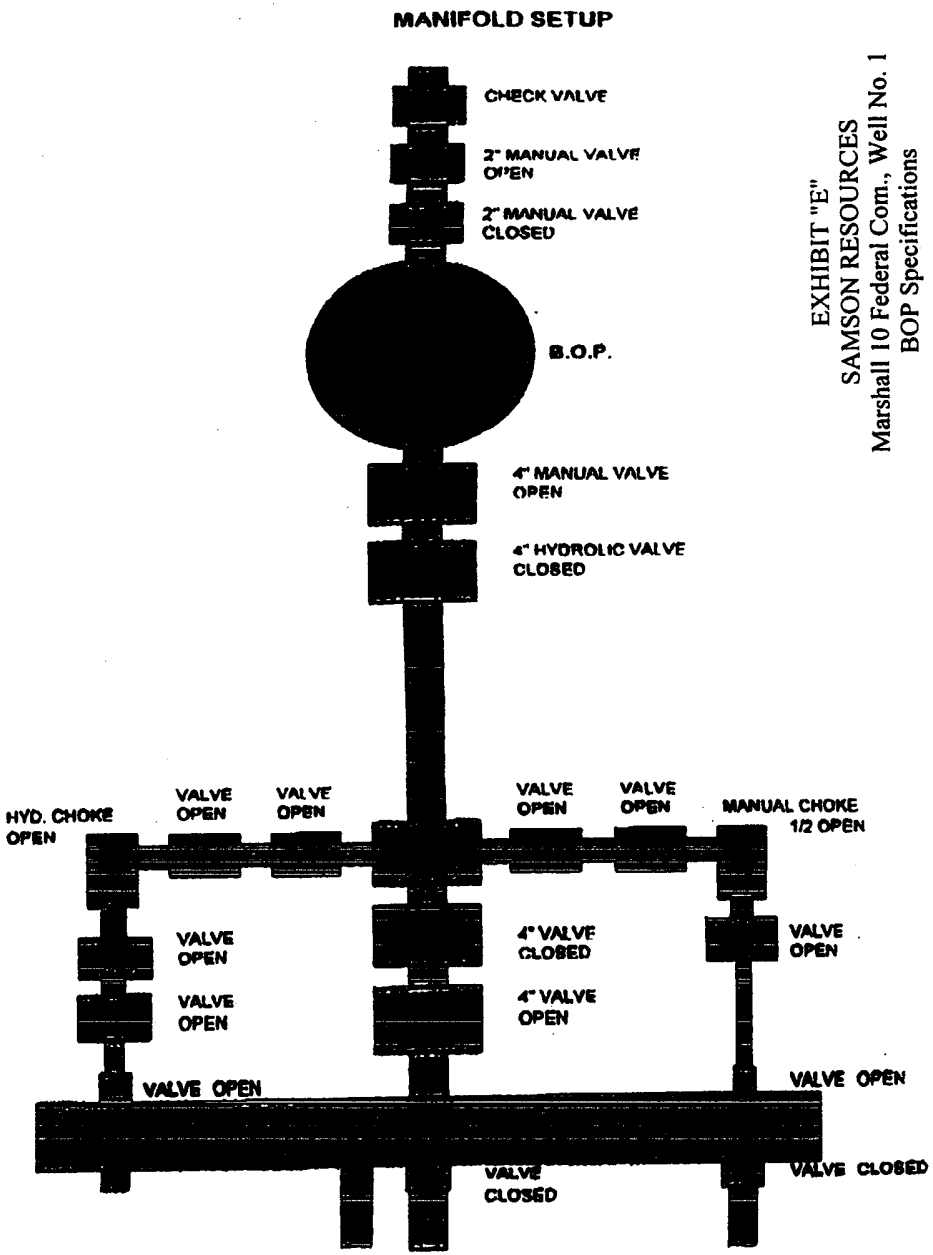


EXHIBIT "E"
SAMSON RESOURCES
Marshall 10 Federal Com., Well No. 1
BOP Specifications

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Samson Resources Well Name & #: Marshall 10 Federal Com #1
Location 1980 F S L & 1980 FW L; Sec.10, T.20 S., R. 33 E.
Lease #: NM13280 County: Lea State: New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

( ) Lesser Prairie Chicken (stips attached)
( ) San Simon Swale (stips attached)
( ) Flood plain (stips attached)
( ) Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche upon completion of well and it is determined to be a producer.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately _____inches in depth. Approximately _____cubic yards of topsoil material will be stockpiled for reclamation.

( ) Other.

III. WELL COMPLETION REQUIREMENTS

( ) A Communlitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(x) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of ½ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

(X) A. Seed Mixture 1 (Loamy Sites)
Side Oats Grama (*Bouteloua curtipendula*) 5.0
Sand Dropseed (*Sporobolus cryptandrus*) 1.0

( ) B. Seed Mixture 2 (Sandy Sites)
Sand Dropseed (*Sporobolus crptandrus)* 1.0
Sand Lovegrass (*Eragostis trichodes*) 1.0
Plains Bristlegrass (*Setaria magrostachya*) 2.0

( ) C. Seed Mixture 3 (Shallow Sites)
Side oats Grama (*Boute curtipendula*) 1.0

( ) D. Seed Mixture 4 (Gypsum Sites)
Alkali Sacaton (*Sporobollud airoides*) 1.0
Four-Wing Saltbush (*Atriplex canescens*) 5.0

( ) OTHER SEE ATTACHED SEED MIXTURE

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

( ) Other

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.
The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

(1) Lined as specified above and

(2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

BLM SERIAL NO. NM-13280
COMPANY REFERENCE: Samson Resources
WELL NO. & NAME: Marshall 10 Federal Com #1

Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection bye the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent gemination = pounds pure live seed

CONDITIONS OF APPROVAL - DRILLING

Operator's Name:	**SAMSON RESOURCES**
Well Name & No.	**1 – MARSHALL 10 FEDERAL COM**
Location:	**1980' FSL & 1980' FWL – SEC 10 – T20S – R33E – ~~EDDY~~ Lea COUNTY**
Lease:	**NM-13280**

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: **16** inch **11-3/4** inch **8-5/8** inch **5-1/2** inch

C. BOP tests

2. A Hydrogen Sulfide (H_2S) Drilling Plan should be activated prior to drilling into the **Yates** Formation at approximately **3200** feet. A copy of the plan shall be posted at the drilling site.

3 Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The **16** inch surface casing shall be set at **1380 feet**, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the **11-3/4** inch salt protection casing is **circulate cement to the surface.**

3. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is **circulate cement to the surface.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is **cement shall tie back a minimum of 200 feet into the 8-5/8 inch intermediate casing.**

5. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the **8-5/8** inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface, salt protection and intermediate casing shall be **2000** psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the **8-5/8** inch casing shall be **5000** psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- A variance to test the **2M WP Hydril to 800 psi with the rig pumps before drilling the 14-3/4" hole** is approved.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.
- BOPE must be tested prior to drilling into the **Wolfcamp** Formation by an independent service company.

IV. DRILLING MUD:

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** Formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

BLM Serial Number:NM-13280
Company Reference: Samson Resources
Well No. & Name: Marshall 10 Federal Com #1

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS
CARLSBAD FIELD OFFICE

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all

damages to Federal lands resulting there from the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar. The Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

/__/ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

/X/ Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

/__/ Flat-blading is authorized on segment(s) delineated on the attached map.

3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, out-sloping, in-sloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

/_x_/ 400 foot intervals.

/___/ _____ foot intervals.

/___/ locations staked in the field as per spacing intervals above.

/___/ locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

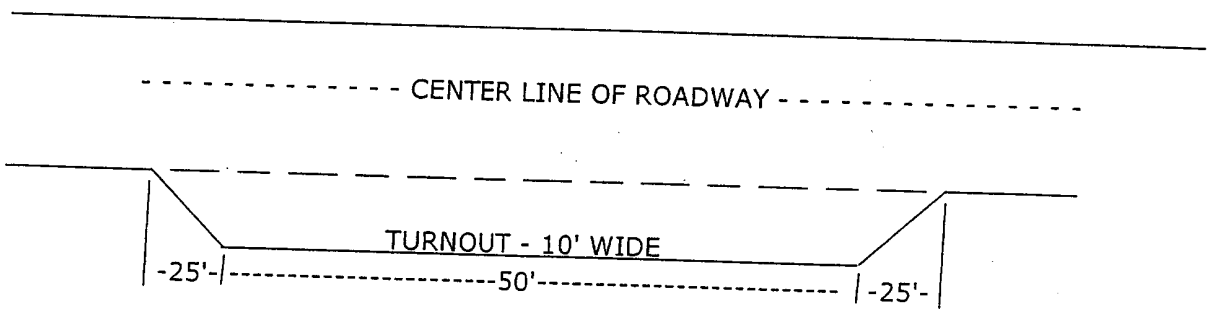
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% slope: spacing interval $= \frac{400}{4} + 100 = 200$ feet

4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



STANDARD TURNOUT - PLAN VIEW

5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

7. MAINTENANCE

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.

10. SPECIAL STIPULATIONS:

See reclamation stipulations attached.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

API 30-025-37627

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No X
Type of action: Registration of a pit or below-grade tank X Closure of a pit or below-grade tank ☐

Operator: Samson Resources (Brad Hargrove) Telephone: (918) 591-1939 e-mail address:

Address: Samson Plaza Two W. Second St. Tulsa, OK 74103

Facility or well name: Marshall 10 Federal Com., Well #1 U/L or Qtr/Qtr NE4SW4 Sec 10 T 20S R33E

County: Lea Latitude 32°35'06.61"_N Longitude 103°39'09.98"_W NAD: 1927 X 1983 ☐ Surface Owner Federal X State Private ☐ Indian ☐

Pit	Below-grade tank	
Type: Drilling X Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined X Unlined ☐ Liner type: Synthetic X Thickness 12 mil Clay ☐ Volume 10,000-bbl+	Volume: ____bbl Type of fluid: Construction material: Double-walled, with leak detection? Yes ☐ If not, explain why not.	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points)
	Ranking Score (Total Points)	-0-

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: onsite ☐ offsite ☐ If offsite, name of facility. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.
Date: October 28, 2005

Printed Name/Title George R. Smith, agent Signature George R. Smith

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Date: JAN 10 2006

Printed Name/Title Signature ORIGINAL SIGNED BY CHRIS WILLIAMS
OC DISTRICT SUPERVISOR/GENERAL MANAGER